

SPECIAL NOTICES

LARRY LOGOGETA writes in to say that anyone who wishes to grow Dionaea and Chrysamphora californica can order these plants from him. He offers two medium size Dionaea bulbs for \$1.00 which includes postage. Large and mature Chrysamphora plants are \$1.29 each plus postage (about 30¢). Plants and bulbs are sent airmail to anywhere in the United States. Make out check or money order to: Insectivorous Plant Environments, 2700 West Newell Ave., Walnut Creek, California 94529. He will try to send your order within two weeks after receiving it.

Due to the recent devaluation of the dollar, the price of the Japanese CP books have risen. The devaluation delayed shipment of the books from Japan until now so my thanks to everyone who has ordered them for being so patient. All past orders have been sent, and I hope they arrive in good order. Those who still wish to order these books may still do so by looking at the list published in CPN 1 (4), 63, 1972 and noting the price changes given here: Book 1 - \$10.00; Book 2 - \$1.93; Book 3 - \$1.35; Book 4 - \$2.30; Book 5 - \$1.30; and Book 6 - \$8.10. There is a new Japanese CP book with the title The Mystery of Insectivorous Plants by Shimizu, published in 1972 with 54 pages of color photographs. At press time, the price for this book was not known. We will try to find out for the next issue.

Those who wish to grow Drosera filiformis and D. fil. var. tracyi from leaf cuttings can obtain these by sending Joe Mazrimas a self-addressed stamped envelope with a small plastic bag. He recommends an airmail stamp for out-of-state requests.

SHORT NOTESREMINISCENCES ON CARNIVOROUS PLANTS

by Edgar T. Wherry

In 1913 I was appointed Assistant Curator of Mineralogy in the U. S. National Museum in Washington, D.C. To maintain contact with nature I built a suburban residence and surrounded it with a small wild-flower garden. The significance of acidity in controlling life processes was coming to be recognized, so I decided to study soil acidity in relation to observed peculiarities of distribution of uncommon native plants. To aid in measuring acidity in the field I devised a method using indicator dyes, which soon came into wide practical use.

On collecting trips to southern New Jersey I early became acquainted with Sarracenia purpurea which grows there in humus derived from Sphagnum moss, the acidity of which has a pH number of 4 (in the accepted method of statement, the smaller the number, the higher the acidity). In expanding my field of observation, the same reading was obtained in other areas, and I was ready to class Sarracenia as a typical acid-soil plant. Then, however, I was told

of its growth in an alkaline marl bog at Junius, New York; visiting there, my indicators showed a pH value of 8, which is definite alkalinity, the opposite of acidity.

The explanation proved to concern the nutrient element nitrogen. Most higher plants absorb this through their roots, but since Sarracenia gets it from the insects drowned and digested in the pitcher-liquid, this plant can grow in nitrogen-deficient soils. It commonly grows in acid soils not because of the acidity but owing to the lack of competition there from more ordinary plants.

The same relationship evidently holds for carnivorous plants in general: they occupy habitats so low in available nitrogen that they are not crowded out by competitors requiring relatively large amounts of this element. In a recent number of CPN Drosophyllum was characterized as an acid-soil plant; but some years ago a sample of its native soil was sent to me by a colleague, and it proved to be alkaline, deficient nitrogen being the significant factor.

In the course of my career in Washington I became a part-time horticultural explorer, and in visiting acid-soil areas was early attracted by pitcher plants. Reports on my studies on them were published in 1929, 1933, and 1934. Accordingly, when Mrs. Mary Vaux Walcott proceeded to make color studies of them, she asked me to help her locate the less common species and to contribute to her sumptuous volume, Illustrations of the North American Pitcher Plants, published by the Smithsonian Institution in 1935, technical descriptions and distribution maps.

Unwittingly two invalid species epithets were used--we did not realize that S. alata has priority over S. sledgei, and that S. leucophylla likewise supersedes S. drummondii. In the light of present knowledge the ranges of the species were somewhat too restricted; but one was much too large: that of S. jonesii was mistakenly indicated as extending from the uplands southwestward into the Gulf lowlands. I am now satisfied that the plant so identified there is really an as yet undescribed species.

Invited to teach ecology at the University of Pennsylvania, I moved in 1930 from Washington to Philadelphia. One day I was contacted by a manufacturing chemist who said he was preparing "Sarasin" by steam distillation of Sarracenia flava roots for use by physicians in relieving a painful facial nerve irritation. His suppliers had lost their help through war-time draft, so he asked for aid in locating a source of another species. I directed him to a boggy lake in southern New Jersey, but asked him to leave young plants undisturbed, to which he agreed. Although he obtained enough material to keep his business going, and the sufferings of his doctor-friends' patients relieved, the colony was not permanently damaged and in a few years was as luxuriant as ever.

Things did not always turn out so well. For several years I took my ecology class to a bog near Atsion, New Jersey, where Sarracenia purpurea was abundant, requesting the students not to dig any, which they obeyed. But one spring when we went there, not a pitcher plant was to be seen. Local naturalists stated that a truck with Massachusetts tags had been there, ostensibly gathering

Sphagnum moss, but actually vandalizing the whole Sarracenia patch.

Since I believe in nomenclatorial recognition of taxa which can be readily recognized in the field, and the characters of which exhibit geographic relationships, I get regarded by workers unfamiliar with the plants in the wild as a "splitter." Correspondingly, some of the taxa I have accepted in major categories have gotten reduced in status or even ignored. Typical is the situation with the northern and southern representatives of Sarracenia purpurea. Since they do intergrade there would be no point in following Rafinesque and classing them as distinct species; but as their ranges are distinctive their segregation as subspecies seems reasonable. For what it is worth I may note that they can be told apart in the dark: to the fingertips the pitchers of the northern plant are slippery-smooth, of the southern one rough-hairy.

Indeed, winged taxonomists are dependable here; as pointed out in a recent number of Castanea (see page 51 of this issue of CPN) entomologists recognize distinct species of those remarkable mosquitoes which have developed immunity to the digestive enzymes and so go through their life-cycle in the pitcher liquid. The southern mosquito occupies the Carolinian life-zone, the northern one the transition and boreal life-zones. The state of Delaware lies in the Carolinian zone, but the northern pitcher plant ranges into it; and it turns out that the northern mosquito follows its host plant into the "wrong" life-zone.

In the same article I formally proposed a status change of Sarracenia jonesii for use by workers who question its species distinctness. In the seemingly authoritative Flora Carolina it has been reduced to a mere forma of Sarracenia rubra. But forms are sporadic variants in the midst of normal populations, whereas in this case there is complete geographic segregation, characteristic of the category subspecies.

In an earlier paragraph I indicated the need for further study and naming of the relatives of S. rubra ssp. jonesii in the Gulf lowlands of Alabama and adjoining states. I will close this discussion with pointing out that there is also an unrecognized form of S. purpurea ssp. venosa there: on a visit to Mobile, Ala. in the 1930's I was shown in a garden a strikingly beautiful plant. When the red pigment of ssp. gibbosa is deficient the result is the odd color-form heterophylla, with tissues yellowish throughout. The Mobile variant of ssp. venosa had yellowish herbage, but the flower petals were a lovely bright pink. It deserves rediscovery.

EDGAR T. WHERRY'S SARRACENIA PUBLICATIONS

by J. A. Mazrimas

Edgar Wherry is a prolific writer on various plant species, namely Phlox, orchids, ferns, and rare or endangered species. In addition to these, he published six articles on carnivorous plants between the years 1929 and 1972. Most of his writings were based on several extensive field trips concerned with observing, measuring, and collecting Sarracenia from different localities.